

PATENT SPECIFICATION

(11) 1285647

1285647

NO DRAWINGS

- (21) Application No. 49889/70 (22) Filed 21 Oct. 1970
- (31) Convention Application No. 8468 (32) Filed 23 Dec. 1969 in
- (33) Czechoslovakia (CS)
- (45) Complete Specification published 16 Aug. 1972
- (51) International Classification C04B 43/02
- (52) Index at acceptance C1H 2
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(54) IMPROVEMENTS IN OR RELATING TO FIREPROOFING COMPOSITIONS

- (71) We, STAVOINDUSTRIA, NARODNY PODNIK of, No. 1/d, Leskova, Bratislava, Czechoslovakia, a Corporation organised and existing under the laws of Czechoslovakia, do
- 5 hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—
- 10 The present invention relates to fire-proofing compositions.
- According to the invention, there is provided a fire-proofing composition comprising 1 to 47% by weight of inorganic fibres, 15 1 to 54% by weight of an expanded siliceous material, 1 to 65% by weight of a siliceous material having a particle size of less than 50 μ , 2 to 75% by weight of a bonding agent (the percentages being based on the total dry weight of the ingredients), and water.
- 20 Preferably, the expanded siliceous material comprises expanded perlite, and the siliceous material having a particle size of less than 50 μ comprises silicon dioxide and/or milled fused silica the substance known under the name "Siloxyd" being particularly suitable. Suitable bonding agents are water-based bonding agents or some organic bonding bonding agents.
- 25 One example of a fire-proofing composition in accordance with the invention comprises 10% by weight of inorganic, for instance basalt, fibres having a fibre length of between 2 and 30 mm, 28% by weight of expanded perlite, 8% by weight of siliceous material having a particle size of less than 50 μ , 6% by weight of milled fused silica having a particle size of less than 50 μ , 48% by weight of cement, (the percentages by weight being 30 based on the dry weight of the ingredients) a small quantity of saponate foaming agent, and the required quantity of water, the aforementioned constituents being mixed together in order to obtain a plastic mortar mixture.
- 35 When mixed together with additional water
- the plastic mortar is of paste-like consistency and can be applied onto a steel structure by means of a spray gun or by hand.
- The fire-proofing composition described has particularly favourable characteristics, especially as to its plasticity. The composition can be applied to a structure in one step, and affords good insulation against heat and noise.
- In a fire-proofing test, a layer 3 cm in thickness of the composition can protect a steel structure for at least 200 minutes, whereas a similar insulation made only of basalt fibre of the same thickness is effective only for 20 minutes, and a similar insulation made of expanded perlite is effective for a maximum of 110 minutes.
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- WHAT WE CLAIM IS:—
1. A fire-proofing composition comprising 1 to 47% by weight of inorganic fibres, 1 to 54% by weight of an expanded siliceous material, 1 to 65% by weight of a siliceous material having a particle size of less than 50 μ , 2 to 75% by weight of a bonding agent (the percentages by weight being based on the total dry weight of the ingredients), and water.
 2. A composition according to claim 1 wherein said expanded siliceous material comprises expanded perlite.
 3. A composition according to claim 1 or claim 2 wherein said siliceous material having a particle size of less than 50 μ comprises silicon dioxide.
 4. A fire-proofing composition according to claim 1 substantially as hereinbefore described.

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Printed for Her Majesty's Stationery Office, by the Courier Press, Leamington Spa, 1972.
Published by The Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from
which copies may be obtained.